

EDUCATION

Quality over Access

Responding to the Demand of the Elite

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SOON after the Lok Sabha elections last year three persons were named for sorting out relevant ideas for the formulation of a new education policy. Initially it appeared that these three, namely P L Malhotra, Moonis Raza, and P N Srivastava, would constitute a formal advisory group. However, the role and status of the group were never precisely stated. In early April this year when the Union Education Minister replied to the debate in the Lok Sabha on his ministry's budgetary demands, he denied the existence of any committee. He said that many eminent educationists were being consulted. In addition to such consultations, he said, the recommendations of the different commissions appointed since independence could also be used for preparing a new educational policy. By the beginning of the academic session 1985-86, more specifically July 1986, the new educational policy will not only be ready but operationalised as well.

Three major issues that have been raised so far in the context of the new policy are: delinking of degrees from jobs, the introduction of modern techniques and equipment in education, and the starting of a 'Central' school in each district of the country. The idea of an 'open university' has also been mentioned as one mode of the use of modern communication technology in education. The common core of all these ideas is the concern that the quality of education available in the country is declining, and that the decline must be stemmed.

The suggestion of delinking of degrees from jobs is rooted in certain assumptions: first, that far too many young people are attending institutions of higher education; second, that a large number among them are attending merely for the sake of qualifying themselves for general service-type jobs; and third, that job-orientation dilutes the pursuit of education and knowledge. If we follow this set of assumptions, we arrive at the conclusion that the quality of higher education can be raised by dropping the job-oriented element among the students, in other words the ones who attend classes because they want a BA or BSc degree in order to become eligible for a job.

It is difficult to say whether anyone ever pursued education purely for its own sake,

without any desire for power, status, or livelihood at the end of an educational career. Suppose we grant that there are such people, it can be safely assumed that such people will be members of the richer sections of society. Only they can be expected to afford to completely obviate the anxiety that lesser mortals feel about the outcome or use of any pursuit, physical or intellectual. The lesser mortals, whose presence in colleges and universities allegedly hampers the pursuit of education for its own sake, are largely members of the poorer sections of society—sections whose struggle for education is condemned to be polluted by the struggle for existence. The term 'poorer' can only be used in a relative sense here as there are enough studies indicating that the truly poor (by whatever standard we identify them; let us say, those below the poverty line) do not even have a token representation in higher education. Their children are forced to leave the educational system long before higher education starts. The 'problem' that delinking of degrees from jobs is supposed to solve has been caused mainly by the children of the relatively new entrants to the middle class, including the rural middle class. The 'delinking' thesis offers a psychological solution to the problem of population in India's 3,625 colleges. The solution consists of doing away with the factor that motivates the majority of students, if not all of them, namely the prospect of a job at the end of a degree programme. The 'delinking' thesis proposes that the government and other major employers should stop using the undergraduate degree as a minimum requirement for the bulk of service occupations.

Whatever the positive and negative features of 'delinking' may be, it is erroneous to describe it as an aspect of educational policy. If it is implemented, it will form a part of employment policy, and its only link with education would rest on the hypothetical influence that delinking would have on the psychology of the job-oriented among college and university students. It is not clear whether 'delinking' will actually be tried, and if so, when. Equally unclear is the method of deciding eligibility for service jobs that will replace the present degree criterion. Ideas like a

National Merit Examination at the end of the secondary stage have been discussed in some quarters, especially the National Institute of Educational Planning and Administration. Another means of disorienting a large section of youth from colleges is vocational education, and this great idea of the post-World War I period is going through yet another round of seminars these days. Evidently, since the first mention of 'delinking' five months ago, its complications have been understood, and its fate may be, like that of the initial three-member committee, to be reconsidered as many times as it would take to file it away.

At the school stage, a major proposal that has been mooted is that of starting a 'Central' school in every district. At present, 'Central' schools constitute a small, elite sub-system within the government's network of schools. They cater mainly to the children of the Central government's employees. The proposed 'Central' school in each district will have places for the meritorious among the district's children, both rural and urban. Most likely, the meritorious will be selected on the basis of examination results and admission tests. The selective treatment that district 'Central' schools will offer will be based on the idea that separation of the worthy from the ordinary is necessary for harnessing the country's talent. In a society where talents have long been bounded by caste-grouping, new kinds of talent cannot be generated without allowing children of all social strata, both sexes, and different levels of manifest merit to stay and study together for as long as possible. Already, the rise of private schooling has set us in the opposite direction—towards further inbreeding of merit. By enlarging the 'Central' schools network, the government will strengthen the tendency that private schooling has initiated with its absurd procedures of selection among infants.

Between the two major concerns of education, namely access and quality, the government is obviously more inclined towards the latter. The only ideas currently being floated in the context of access are 'open university' and the expansion of non-formal education. Whenever the new educational policy is announced, we can expect it to reiterate the government's intention to fulfil the Constitutional promise of universalising elementary education, mainly by expanding the network of non-formal education and partly by increasing the number of schools. Non-formal education and 'open university'

will act as shields, howsoever weak, against possible criticism that the government is neglecting the poor. The real emphasis will be on responding to the demand of the elite for an education system that works— better schools for their children (to be legitimised as pace-setters for other schools that do not work), pan-Indian curricula and examinations, com-

puters, and value-orientation (a euphemism for revivalist orientation of school culture). These likely segments of educational policy, if and when it is announced, will steer the system away from the course that progressive developmentalists like Mudaliar, Srimali, Kothari and Naik had charted in the ethos of the first two decades after independence.

SCIENCE AND TECHNOLOGY

Whither Indian Aeronautics?

Swaraj Bansal

NO less than the Scientific Advisor to the Ministry of Defence and the President of the Aeronautical Society of India, V S Arunachalam, made a pointed reference to the dismal performance of aeronautics in India during the last twenty-five years while inaugurating the Society's 'Special Symposium on Technology Challenges of Ongoing Aerospace Programmes' at Trivandrum in April. Arunachalam related the failure of the industry to the lack of confidence in indigenous technology among its users.

The symposium consisted of eight invited lectures by eminent professionals from aerospace. The presentations, with slides and all, were informative but there was no debate or questions.

If the objective of the symposium was to draw the attention of the aeronautical professionals to the ongoing aerospace programmes and related technology requirements (challenges in fact), the symposium was far from achieving this objective. Firstly, it was not an 'open' meeting, in the sense that all the speakers were 'selected' and did not quite represent either the aerospace programmes or aerospace expertise. Thus there was no aerospace designer from HAL, ADE, IISc, or even ISRO and the IITs who could have made a technological contribution. There could not be a free debate on the aerospace programme and related issues of technology development; also, there was little scope for a critical appraisal of the current state of technology.

Secondly, within the framework of the selected talks, most of the presentations amounted to mere enumeration of the respective organisation's limited programmes with some reference to problems of technology development. For instance, the real technology challenge in production!-sation of aircrafts lies in translating designs into hardware through die and tool designs, machining skills, application of numerical machine programmes for complex designs, etc, and not in the pro-

curement of parts or raw material. Similarly, instead of focusing on the technological challenges in producing indigenously high-grade electronic components, the focus was on systems design in avionics. There is a symbiotic relationship between components/circuits and systems design, the latter not being immune to technological break-throughs in the former. The number of strategic space technologies which are being planned and indigenously developed and which still hold formidable challenges were not highlighted. Little light was shed on the role of R and D in the existing aerospace industry by the paper on the subject.

This brief resume of the Aeronautical Society's symposium reflects the existing state of the aeronautical industry. The history of aeronautics in India shows that project after project of the HAL has been shot down systematically in the past 25 years and the user agencies (primarily the Indian Air Force) have repeatedly gone abroad for the smallest of their requirements. Today even a small 20-seater light transport aircraft has to be imported (the case of German Dornier).

The pattern is all too familiar. The IAF puts up its requirements (operational specifications, to be precise), deliberations of sorts, mostly cosmetic, are held in aeronautical circles and claims to develop indigenously whatever is required are ridiculed. When nothing comes of it all for a while, the decision to import is taken, first a few parts (starting with the engine) and then the whole aircraft. With foreign collaboration, a productionisation plan is set in motion. Often, even here, first some parts and then the pre-assemblies and assemblies are imported. By the time the first assembly of the proposed aircraft rolls out, the aircraft (and its technology, whatever that may mean) is obsolete. Enter the next project and history repeats itself.

The forthcoming LCA (Light Combat Aircraft) is a prestigious project for the

Indian aeronautical industry. The estimated cost runs to a four figure sum in crore. The aircraft is supposed to be a multi-high technology sophisticated weapon system compatible with the contemporary aircraft systems of the world in the 1990s. The aircraft is required to be delivered in 1990, but the project, barring a few wind-tunnel tests and studies on different configurations (three to be precise) has made little progress. The technology-options in configuration design, propulsion system (engine), material selection, avionics and weapon sub-systems (a very sensitive area for technological compatibility) are yet to be identified, finalised and major designs frozen. Besides these technological inputs (which are presumably available in the various far-flung aeronautical establishments in the country), a work of this nature requires large project teams with commitment and flair and experience, a massive co-ordination effort, integration and control, and above all systematic organisation development which evolves gradually from specific project requirements and meets its technology and sub-system development objectives in a controlled manner. This is the minimum recipe for delivering the goods in any high-tech multi-discipline project.

No such thing is happening in this case; it is possible that the project is already five years behind schedule. Many in the government might have already mounted a search in the international markets for an equivalent aircraft to fit the slot.

The atomic energy and space programmes, for example, delivered the goods because they had a mandate backed by massive infrastructure and organisational effort. All high technology development needs commensurate organisational effort, not only in excelling in technology development which is essential but also in systems integration, co-ordination and management. This in turn needs a systematic effort to build institutions (organisations of professionals engaged in various tasks towards common goals) where these efforts are culminated to bear fruition. It is the harmony and synergy of these efforts that result in the success of large projects.

The aeronautics profession in India, in spite of individual pockets of excellence, is rather scattered even now. The profession has failed to respond to the demands placed on it and has consistently succumbed to the softer options of importing as against pooling its resources to put its house in order. Government policy too has been far from helping the building up of self-reliance in aeronautics. Govern-